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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,747	12/08/2003	Robert M. Koehl	085455-9455-00	2653

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EXAMINER

SAYOC, EMMANUEL

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No. 10/730,747	Applicant(s) KOEHL, ROBERT M.	
	Examiner Emmanuel Sayoc	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-86 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-86 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-8, drawn to a method of calibrating a pump, classified in class 73, subclass 232.
 - II. Claims 9-63, and 72-76 drawn to a method of controlling a pump, classified in class 417, subclass 53.
 - III. Claims 64-71, drawn to a method of detecting a pressure sensor failure operating a motor of a pump, classified in class 417, subclass 44.2.
 - IV. Claims 77-79, drawn to a pump control system with a switch, classified in class 417, subclass 44.1.
 - V. Claim 80, drawn to a pump control system, classified in class 417, subclass 18.
 - VI. Claim 81, drawn to a pump controller, classified in class 417, subclass 44.11.
 - VII. Claims 83-86, drawn to a pump system operated based on voltage and frequency curves, classified in class 417, subclass 45.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions II. and I. are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the subcombination comprises steps such as determining an incremental pressure step given an incremental motor frequency change and storing a minimum calibrated speed, which are details not required in the process of regulating speed of a motor pump, invention group II. The subcombination has separate utility as an independent process for pump calibration unrelated to pump speed motor control, such a fluid dosing.

Inventions II. and III. are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the subcombination comprises steps such as shutting down a drive to the motor if the pressure sensor is outside of a sense range, attempting to detect a second pressure sensor signal after power is reapplied to the motor, and allowing the drive to remain shut down until a second pressure signal is detected. While the operation and failure detection process is

relevant to pump motor control, these steps are details not required in the process of controlling a motor pump, invention group II. The subcombination has separate utility as an independent process for pressure sensor diagnostics and operation unrelated to pump motor control, such as sensor diagnostics for system testing.

Inventions I. and III. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the calibration invention group I. recites steps such as determining an incremental pressure step given an incremental motor frequency change and storing a minimum calibrated speed, which are details not required in the process of diagnosing and operating a pressure sensor. The two groups have different functions and effects, one for pump calibration, and the other for pressure sensor error diagnostics and operation.

Inventions groups I., II., and III., and groups IV., V., VI., and VII., are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the processes as claimed can be practiced by another materially different apparatus such as a refrigerant compressor with a controller that is completely hardwired by circuitry to perform all

process steps. The controller need not involve a digital signal processor, or a microprocessor. All processing can be done outside of the hardwired circuit. The control system does not need to be able to perform calibration procedures, or detect fault conditions. Operators can manually interrupt normal operation of the pump systems to perform the calibration, and sensor and system fault detection by completely different systems. The controller also does not need an internal fuse, or communication link, or follow a voltage frequency curve as claimed to perform process steps. The curve can be substituted by voltage or frequency set points or thresholds. The apparatus, which is essentially a pump, a motor, and a controller, can be used to practice materially different processes, such as control based on periods of timed operation at constant operation parameters determined by operators based on programming, i.e. no feed back control or logic processing.

Inventions IV. and V., are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the controller of the combination is not required to perform a self calibration procedure, to operate the motor in a limp mode, or to detect fault conditions. The subcombination has separate utility such as a controller for a motor application not involved in pumping.

Inventions IV. and VI., are related as combination and subcombination.

Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the controller of the combination is not required to contain an internal fuse connected to an AC bus line, nor does the processor require three-phase output power using pulse width modulation. The subcombination has separate utility such as a controller for a motor application not involved in pumping.

Inventions IV. and VII., are related as combination and subcombination.

Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the controller of the combination is not required to operate according to a voltage or frequency curve nor is the controller required to be connected via a communication link. The subcombination has separate utility such as a controller for a motor application not involved in pumping.

Inventions V., VI., and VII, are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention the controllers described in each of the invention groups have separate utility such as controllers for any motor operation such as drilling, rotary actuation, or power generation. See MPEP § 806.05(d).

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for any one of Groups I. – VII. is not required for Group any other invention, restriction for examination purposes as indicated is proper.

Species Restriction (Group II.)

5. Should the applicant elect invention group, II., this invention group contains claims directed to the following patentably distinct species of the claimed invention:

Species A, drawn to figure 3,

Species B, drawn to figure 4,

Species C, drawn to figure 5,

Species D, drawn to figure 6,

Species E, drawn to figure 7,
Species F, drawn to figure 8,
Species G, drawn to figure 9,
Species H, drawn to figure 10, and
Species I, drawn to figure 12.

6. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims in Group II. are generic.

7. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

8. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

9. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over

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the prior art, the evidence or admission may be used in a rejection under 35

U.S.C. 103(a) of the other invention.

10. A telephone call was made to Raye Daugherty on 3/21/2004 to request an oral election to the above restriction requirement, but did not result in an election being made.

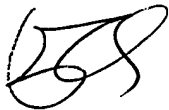
11. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).


Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Sayoc whose telephone number is (571) 272 4832. The examiner can normally be reached on M-F 8-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Emmanuel Sayoc
Examiner
Art Unit 3746


CHERYL TYLER
SUPERVISORY PATENT EXAMINER

ECS